



June 6, 2003

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Mr. William J. Keese
Chairman
California Energy Commission
1516 Ninth Street, MS-32
Sacramento, CA 95814

Dr. Alan Lloyd
Chairman
Air Resources Board
1010 I Street
Sacramento, CA 95814

Dear Mr. Keese and Dr. Lloyd:

I am writing to provide the comments of the Association of International Automobile Manufacturers (AIAM)¹ on the recent draft report and recommendations on a strategy for reducing California's dependence on petroleum, as required by AB 2076 passed in 2000. Petroleum dependence is a major national issue for both environmental and energy security reasons.

The draft report, as revised, includes three recommendations:

- 1.Reduce gasoline and diesel fuel consumption to 15% below 2003 usage levels by 2020.
- 2.Work with the Federal government to double the fuel economy of passenger cars, light trucks, and sport utility vehicles by 2020.
- 3.Increase the usage level of alternative fuels to 10% by 2020 (and 18% by 2030).

While we agree it is in the public interest to reduce petroleum consumption, we do not believe these draft recommendations are realistic or achievable in the time frame contemplated, i.e., by 2020.

The draft report seems to rely heavily on the availability of technology to improve vehicle fuel economy or use alternative fuels, but it does not consider the other factors involved in realizing the public goal of reducing petroleum consumption. In fact, the dramatic reductions in petroleum consumption contemplated by the draft report can only be achieved through significant changes in social and economic patterns and consumer behavior. In California and most of the rest of the U.S., cities, and the communities and businesses that encompass them, have been developed primarily based on a

¹ The Association of International Automobile Manufacturers ("AIAM") members are American Honda Motor Co., Inc., American Suzuki Motor Corporation, Aston Martin Lagonda of North America, Ferrari North America, Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Inc., Maserati North America, Mitsubishi Motor Sales of America, Inc., Nissan North America, Inc., Peugeot-Citroen, Renault, SA, Saab Cars USA, Inc., Subaru of America, Inc., and Toyota Motor Sales, U.S.A., Inc.

ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS, INC.

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model of personal transportation. Many citizens have chosen to live in neighborhoods that are a considerable distance from their places of employment, in large part because of affordable personal transportation which depends on the widespread availability and low cost of gasoline. This fact has also contributed to limited availability of public transportation options in most California (and U.S.) cities. The behavioral and societal changes and the building of infrastructure necessary to support a dramatic reduction in petroleum consumption will take many years to effect in any event, much longer than by 2020. AIAM encourages California to expand its efforts to work with localities to identify proper zoning and planning practices and include energy management and petroleum consumption reduction objectives.

Of course, vehicle technologies do play a role, but it must be recognized that consumer choices and attitudes are the primary factors that influence the types of vehicles people purchase and how much they drive. California, other states, and the Federal government have seen the wisdom and value of offering consumers incentives, such as tax credits, for purchasing certain advanced technology or alternative fueled vehicles. Some employers, including the Federal government, provide employee incentives to use mass transit. Some employers offer their employees telecommuting options. AIAM supports these types of incentives and encourages California to find additional ways to provide incentives to reduce consumption through reductions in driving and increases in purchases of advanced technology vehicles.

Public education is also an important element. Reducing dependence on petroleum is necessarily a long run goal; therefore, it is important to have a public school curriculum that educates all children about the importance of the environment and how it is affected by the design of cities, communities, transportation systems, and how individual citizen actions and decisions affect the environment.

As far as vehicle fuel economy is concerned, AIAM and its member companies are on record supporting changes in the federal Corporate Average Fuel Economy (CAFE) program, as long as the changes are equitable to all automobile manufacturers, are technologically feasible, and provide adequate lead-time. We commented on the recent CAFE light truck rulemaking by the National Highway Traffic Safety Administration (NHTSA) (copy enclosed), and we encourage California to review and consider all the public comments made in regard to that rulemaking. Similarly, AIAM commented on other recent vehicle fuel economy reports, including the National Academy of Sciences report in 2001 (copy enclosed), and we encourage California to consider all these public comments as well. We understand that NHTSA is planning to issue an advance notice of proposed rulemaking soon to solicit comments on changes to the federal CAFE program.



As you fully understand, in order to introduce advanced technology vehicles to improve fuel efficiency and maintain low emissions, it is more important than ever to have high quality gasoline and diesel fuel. AIAM has worked closely with CEC and CARB in the past to ensure the availability of high quality transportation fuels in California, and we look forward to maintaining this close working relationship.

AIAM also appreciates California's new interest in the potential role of advanced clean diesel technologies that are being developed for cars and light trucks. These technologies, along with gasoline and diesel hybrid vehicles, offer much promise for near term fuel efficiency improvements.

Thank you for the opportunity to comment on this important public policy decision.

Sincerely,

A handwritten signature in black ink, which appears to read "John Cabaniss", is written over a faint, larger version of the same signature.

John Cabaniss
Director, Environment & Energy

Enclosures



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JAMA

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Renault

February 14, 2003

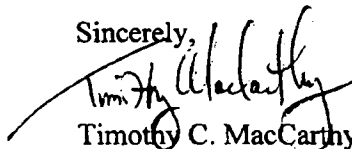
U.S. Department of Transportation Dockets
Room PL-401
400 Seventh St., SW
Washington, DC 20590

RE: Docket Number NHTSA-2002- 11419; Notice 2

To Whom It May Concern:

Enclosed are the comments of the Association of International Automobile Manufacturers with regard to NHTSA's December 16, 2002, notice of proposed rulemaking on CAFE standards for 2005-07 model year light trucks. For further information on or clarification of this matter, please contact Mr. John Cabaniss, AIAM's Environment and Energy Director at (703) 247-2107.

Sincerely,


Timothy C. MacCarthy
President and CEO

cc: Noble Bowie, NHTSA Office of Safety Performance Standards
Ken Katz, NHTSA Office of Safety Performance Standards
Otto Matheke, NHTSA Chief Counsel's Office

Enclosure



**Comments of the
Association of International Automobile Manufacturers (AIAM)
in Response to the Notice of Proposed Rulemaking Issued by
the National Highway Traffic Safety Administration (NHTSA)
on Light Truck CAFE Standards for Model Years 2005-07**

Docket No. 2002 – 11419; Notice 2

February 14, 2003

AIAM¹ appreciates the opportunity to provide its comments in response to NHTSA's December 16, 2002, proposal on light truck CAFE standards.

AIAM, whose members have consistently been leading producers of fuel efficient vehicles, supports the Administration's decision to go forward with rulemaking to establish new light truck CAFE standards. As we have stated in past submittals to the government, we support efforts at the Federal level to reduce our national dependence on imported petroleum through methods that are non-discriminatory among manufacturers and that operate in harmony with broader market forces. In our comments regarding NHTSA's February 7, 2002, notice on light truck CAFE standards, AIAM expressed its support for Secretary Mineta's February 1, 2002, request to Congress for additional funding for the Department's CAFE program and additional legal authority to reform the CAFE program consistent with recommendations of the National Academy of Sciences (NAS).²

With regard to the levels of the standards that were proposed on December 16, we defer to the individual comments of our member companies regarding the feasibility of those levels. We note, however, that 2005 model light trucks may be introduced as early as January of 2004. Assuming that final standards are issued this spring, there could be barely 8 to 9 months lead-time before the introduction of early 2005 models, and less than three years lead-time for early 2007 models. As noted in the NAS report with regard to the lead-time needed for manufacturers to implement fuel economy improvements, as

¹ AIAM members include American Honda Motor Co., American Suzuki Motor Corp., Aston Martin Lagonda of North America, Inc., Ferrari North America, Inc., Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Maserati North America, Inc., Mitsubishi Motors North America, Nissan North America, Peugeot Motors of America, Saab Cars USA, Renault, SA, Subaru of America, and Toyota Motor Sales, U.S.A. AIAM also represents original equipment suppliers and other automotive-related trade associations. AIAM members have invested over \$26 billion in new production and distribution capacity in the United States, creating tens of thousands of highly-skilled, high-wage jobs across the country in manufacturing, supplier industries, ports, distribution centers, headquarters, R&D centers, and automobile dealerships.

² *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*, National Research Council, 2002.

a general matter “little change can be expected over the next few years, and major changes would require a decade.”³

The preamble to the proposal notes that, consistent with the NAS report recommendations, the Agency will study programmatic CAFE alternatives and will continue to support targeted research programs and consumer tax incentives. We will address some of these programmatic issues herein, and we urge the Agency to continue its support for an equitable, market-based fuel economy program.

Standards Format

AIAM strongly believes that the format of any future fuel economy standards must be designed to promote real world petroleum conservation and must impose any resulting burdens in a fair and equitable manner for all manufacturers. A basic element of fairness is that the same standards must apply to all manufacturers at the same time. We believe that the current CAFE format meets these tests, and AIAM therefore has not sought a change in the standards format. However, it is possible that other standards formats could be designed that would also meet these tests. AIAM would not oppose a well-designed, equitable, attribute-based format, so long as the resulting standards levels meet the current statutory criteria of technological feasibility and economic practicability.

One standards format that was proposed and rejected during last year’s deliberations on comprehensive energy legislation is the uniform percentage improvement format. The Department of Transportation (DOT) lacks authority to adopt such a standards format, and AIAM would strongly oppose any effort to authorize such standards. Respected analysts have consistently criticized this standards format over the years, including in the recent NAS report, which states:

The UPI system would impose higher burdens on those manufacturers who had already done the most to help reduce energy consumption. The peer-reviewed literature on environmental economics has consistently opposed this form of regulation. It is generally the most costly way to meet an environmental standard; it locks manufacturers into their relative positions, thus inhibiting competition; it rewards those who have been slow to comply with regulation; it punishes those who have done the most to help the environment; and it seems to convey a moral lesson that it is better to lag than to lead. In addition to fairness issues, the change would not eliminate the problems of the current CAFE system, but would create new ones. Implementation of such rules provides strong incentives for manufacturers to not exceed regulatory standards for fear that improvements will lead to tighter regulations. Thus, such rules tend to create beliefs counterproductive for longer-term goals.⁴

³ *Id.*, page 69.

⁴ *Id.*, pages 92-93.

Should alternative standards formats be considered, they should be competitively neutral. These could be in the form of market class-, size-, or weight-based standards, so long as the resulting standards levels are feasible and practicable, as noted above. Under such standards formats, fuel efficiency improvements would be required for all vehicle classes. The burdens of the standards would be approximately the same, regardless of the mix of vehicles produced by the manufacturer. However, in developing such a system, it would be critical to assure that the system does not restrict the functional utility of light trucks. Of course, each approach has advantages and disadvantages that must be carefully considered. Weight-based standards would be one way to set standards of equivalent stringency for vehicles of various sizes, offering the advantages of ease of measurement and application to the existing fleet and weight being proportional generally to fuel economy. However, weight-based standards have the disadvantage of providing less certainty of actual fuel consumption improvement and possibly disincentives to use advance, lightweight materials. Weight-based standards could even offer incentives for increasing weight, and under a weight-based standards approach, consumers purchasing patterns could lead to a heavier, less efficient fleet.

A size-based standard would offer advantages similar to those of weight-based standards, i.e., ease of measurement and application to current fleet and size also being generally proportional to fuel economy. A size-based standard would also provide an incentive for improved packaging or introduction of lightweight materials that reduce weight without reducing size. Appropriated characteristics, such as vehicle "shadow" (length times width) would have to be developed to fairly apply size-based standards. Also, it could be difficult to properly classify some specialty vehicles and to integrate cars and trucks into the same system.

Either weight or size formats could be incorporated into a continuous function, in order to avoid undesirable "edge-of-class" effects. However, a continuous function standard would make it even more difficult to integrate cars and light trucks.

Another option might be to establish market segment classes, such as those created by *Automotive News* or *Ward's* for reporting sales. This system could not be incorporated into a continuous function, but might be a good way to minimize competitive impacts by placing vehicles with similar market attributes in the same class.

The "Separate Fleet" Requirement

The current law requires manufacturers to divide their passenger automobile fleet into domestic and import classes that must comply separately with fuel economy standards. There is no similar requirement for light trucks. This requirement was originally intended to inhibit domestic manufacturers from simply importing large numbers of small, "captive import" vehicles as a compliance strategy. Subsequent events, such as consolidation within the industry, have shown that, whatever the original validity of this concern, the concern should no longer exist. There is no reason to believe that the current

market would accept large numbers of very small vehicles that were originally designed for foreign markets. In some cases the provision has created a disincentive for foreign-based companies to increase the U.S. content of their vehicles to levels above 75 percent, since doing so would place the vehicles in a different compliance fleet. This disincentive is real, not theoretical, and has cost U.S. jobs. AIAM member companies have been compelled to limit increases in domestic content levels in the past in order to avoid creating a new CAFE compliance fleet. For example, Nissan's efforts to increase the domestic content of its Tennessee-produced Sentra model were delayed by the separate fleet restriction. There have even been situations in which a company may have decreased the U.S. content of certain low efficiency domestic vehicles to a level below 75 percent, so that those vehicles can be averaged with the manufacturer's more fuel-efficient import fleet. The 2002 NAS CAFE study concluded that the separate fleet requirement "is no longer justifiable and should be eliminated."⁵ We strongly concur in this assessment.

Tax Credits and Other Market Incentives

A major deficiency of the CAFE system is the insufficiency of its market signals on the demand side to encourage consumers to purchase fuel-efficient vehicles. The best market signal is an increase in the cost of driving. Given the current political realities that work against increased fuel taxes, the next best alternative may be to create a variety of market incentives to stimulate demand for fuel efficiency as a vehicle attribute. Such incentives would encourage manufacturers to develop and introduce advanced technologies by enhancing the market for vehicles that use such technologies. Advanced fuel-efficient technologies are frequently costly, particularly in their first years of introduction, so incentives would facilitate the introduction of these items by helping to bridge the price differential between these vehicles and conventional vehicles. Congress has considered a variety of technology-based incentives in recent years to encourage consumers to purchase advanced technology vehicles, notably the CLEAR (Clean Efficient Automobiles Resulting from Advanced Car Technologies) Act provisions that were included in last year's comprehensive energy bill. AIAM member companies have generally supported these incentives. However, ideally, we believe that such incentives should be performance-based and technology-neutral, i.e., they should be designed to encourage the production and sale of fuel-efficient vehicles, regardless of the technology selected by the manufacturer to achieve high fuel efficiency.

CAFE Credits

New authority for credit trading between standards classes and between companies under the CAFE program would provide manufacturers with increased compliance flexibility in dealing with unanticipated market shifts. The recent NAS report suggested this approach.⁶ Broader trading, encompassing other industrial sectors, would provide even greater flexibility by establishing additional buyers and sellers of credits. In that way,

⁵ Id., pages 89-90 and Recommendation 4, page 114.

⁶ Recommendation 2, page 114, id.

there would be greater assurance of a continuing market for the credits. A broad credit trading system would provide a strong incentive for manufacturers to earn credits through voluntary fuel economy improvements, since there would be a strong likelihood that buyers would exist for the earned credits. Permitting such trading would also enhance the overall efficiency of the system.

Concerns have been expressed that a credit trading system would primarily benefit foreign-based manufacturers of fuel-efficient vehicles. However, under an attribute-based system, there is no reason in principle why there should be any disparate effects of this sort. A variation on this credit theme that was discussed in the recent NAS report is the establishment of the government as a seller of CAFE credits. Under this approach, the government would set a fixed price for the credits that it would sell. This price would be set above the effective cost of compliance for a reasonably efficient manufacturer, to maintain the incentive for manufacturers to meet the fuel economy targets. However, for a manufacturer that faces unusual compliance problems or should market shifts occur or technology not develop as anticipated, this approach has the advantage of establishing a maximum cost of complying with the requirements. In addition, manufacturers could be required to make up any fuel efficiency shortfalls within a specified period of time. The credit system could replace the current civil penalty system under the law, a change that the 1992 NAS CAFE Committee characterized as a "real advantage." In addition, the concepts of averaging and credit banking, which are part of the current system, should be retained.

Government-Industry Cooperative Research

In the preamble to the proposal, NHTSA expressed support for the FreedomCAR program and continued targeted government research spending. See 67 Fed. Reg. 77017. Government supported research can help provide a bridge to market introduction for advanced technologies that may be considered to be of too high a development risk for individual companies to pursue. Any such programs should be open to all manufacturers that have a substantial research capability within the U.S. With the increasing globalization of the world auto industry, distinctions based on historic geographic bases of companies have less and less relevance. Several AIAM member companies have substantial research presences in the U.S., and there is no justification for categorically barring such companies from participation in joint government-industry research programs.



Chairman
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JAMA
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Renault

May 8, 2002

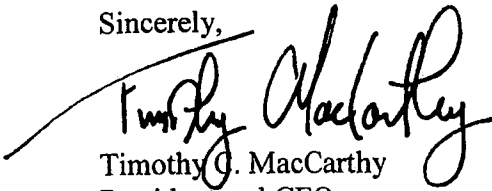
The Honorable Jeffrey W. Runge, M.D.
Administrator
National Highway Traffic Safety Administration
400 Seventh St., SW
Washington, DC 20590

Subject: Docket Number NHTSA-2002-11419
49 CFR Part 533
National Academy of Science Study and Future Fuel
Economy Improvements, Model Years 2005-2010

Dear Dr. Runge:

Enclosed are the comments of the Association of International Automobile Manufacturers with regard to NHTSA's February 7, 2002, Federal Register notice requesting comment on Light Truck Fuel Economy Improvements for Model Years 2005-2010. For further information on or clarification of this matter, please contact Mr. John Cabaniss, AIAM's Director of Environment & Energy, at (703) 525-7788 x 238.

Sincerely,


Timothy C. MacCarthy
President and CEO

cc: Noble Bowie, NHTSA Office of Safety Performance Standards
Ken Katz, NHTSA Office of Safety Performance Standards
Otto Matheke, NHTSA Chief Counsel's Office

Enclosure



**Response of the
Association of International Automobile Manufacturers (AIAM)
to the Request for Comments Issued by the
National Highway Traffic Safety Administration (NHTSA)
on the CAFE Study of the National Academy of Sciences (NAS) and on
Future Fuel Economy Improvements for
Model Year 2005-2010 Light Trucks**

Docket No. 2002 - 11419

May 8, 2002

AIAM¹ appreciates the opportunity to provide its comments in response to NHTSA's February 7, 2002, notice on the CAFE Program.

AIAM member companies have for many years been leaders in offering fuel-efficient vehicles for the U.S. market. Historically, vehicles produced by our member companies have headed EPA's annual list of most fuel-efficient vehicles. Indeed, these companies have achieved success in the U.S. market to a significant extent through the offering of high quality, fuel-efficient vehicles.

AIAM member companies have achieved this fuel economy leadership to a significant degree by pioneering the introduction of advanced automotive technology. The Honda Civic Hybrid and Toyota Prius hybrid vehicles are notable examples of this leadership. We anticipate that AIAM companies will continue to follow this advanced technology path that has led to their success.

AIAM made a presentation to the NAS Committee at the March 12, 2001, Committee meeting. In general, AIAM believes that the Committee's report represents a significant contribution to the CAFE literature and debate, including a number of recommendations for reform of the fuel economy program, which are discussed in further detail below.

^{1/} AIAM members include American Honda Motor Co., Inc., American Suzuki Motor Corporation, Daewoo Motor America, Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Inc., Mitsubishi Motors America, Inc., Nissan North America, Inc., Peugeot Motors of America, Inc., Saab Cars USA, Inc., Societe Anonyme Des Usines Renault, Subaru of America, Inc., and Toyota Motor North America, Inc. The Association also represents original equipment suppliers and other automotive-related trade associations. AIAM members have invested over \$20 billion dollars in new production and distribution capacity, creating tens of thousands of high-skill, high-wage jobs across the country in manufacturing, supplier industries, ports, distribution centers, headquarters, R&D centers and automobile dealerships.

As numerous analysts have noted, the current CAFE system has significant weaknesses. Chief among its flaws is that the program operates almost exclusively on the supply side, in that it simply directs manufacturers to produce vehicles having a specified level of average fuel economy or higher. On the demand side, however, current market signals and incentives are insufficient to cause consumers to demand such vehicles, producing an imbalance between marketplace demands and policy goals. CAFE also has been and, unless significantly modified or supplemented, will continue to be insensitive to future market shifts. AIAM believes that market-based measures would more efficiently promote national goals of energy security and reduced emission of greenhouse gases.

Nevertheless, we recognize that political realities may make it exceedingly difficult for the government to adopt more efficient strategies for promoting energy security and global climate policies, such as through higher or new fuel taxes. We also recognize that the seriousness of the current energy security and global climate concerns may justify a regulatory role for the Federal government in enhancing vehicle fuel efficiency. These considerations lead us to support the efforts of NHTSA to consider methods for improving the CAFE program and for assessing the potential for future fuel economy improvement.

AIAM will focus its comments on the policy questions that are presented in NHTSA's notice. Our comments are numbered consistently with the questions in NHTSA's notice.

1. CAFE and safety. AIAM believes that it is feasible to produce lighter, fuel-efficient vehicles that provide high levels of occupant safety. We urge the agency to review and update its analysis of the relationship between vehicle weight and safety. As part of this review, we urge the agency again to attempt to separate analytically the effects of vehicle size and weight. We note that the agency's most recent study involved only 1993 and older vehicles. An updated study would better reflect the current model mix and technology.

10. Attribute-based standards formats. AIAM strongly believes that the format of any future fuel economy standards must be designed to promote real world petroleum conservation and must impose any resulting burdens in a fair and equitable manner for all manufacturers. A basic element of fairness is that the same standards must apply to all manufacturers at the same time and we believe the current CAFE format meets this fairness test. However, it is possible that other standards formats could be designed that would also meet this test.

One standards format that was proposed and rejected during the current and previous legislative deliberations on CAFE is the uniform percentage improvement format. DOT lacks authority to adopt such a standards format and AIAM would strongly oppose any effort to authorize such standards. This standards format has been roundly criticized and thoroughly discredited by several respected organizations. Both the recent and the 1992

NAS CAFE Committees criticized the approach. The recent NAS Committee stated as follows:

The UPI system would impose higher burdens on those manufacturers who had already done the most to help reduce energy consumption. The peer-reviewed literature on environmental economics has consistently opposed this form of regulation. It is generally the most costly way to meet an environmental standard; it locks manufacturers into their relative positions, thus inhibiting competition; it rewards those who have been slow to comply with regulation; it punishes those who have done the most to help the environment; and it seems to convey a moral lesson that it is better to lag than to lead. In addition to fairness issues, the change would not eliminate the problems of the current CAFE system, but would create new ones. Implementation of such rules provides strong incentives for manufacturers to not exceed regulatory standards for fear that improvements will lead to tighter regulations. Thus, such rules tend to create beliefs counterproductive for longer-term goals.²

Should alternative standards formats be considered, they should be competitively neutral, technologically feasible and economically practicable. These could be in the form of market class-, size-, or weight-based standards, so long as the resulting standards levels are feasible and practicable, as noted above. Under such standards formats, fuel efficiency improvements would be required for all vehicle classes. The burdens of the standards would be approximately the same, regardless of the mix of vehicles produced by the manufacturer. It would be critical to assure that the system does not restrict the functional utility of light trucks. Weight-based standards would be one “neutral” way to set standards of equivalent stringency for vehicles of various sizes. A size-based standard would have advantages similar to those of weight-based standards, and would also provide an incentive for improved packaging or introduction of lightweight materials that reduce weight without reducing size. However, it could be difficult to classify vehicles properly and to integrate cars and trucks into the same system. Either weight or size formats could be incorporated into a continuous function, in order to avoid undesirable “edge-of-class” effects. However, a continuous function standard would make it even more difficult to integrate cars and light trucks. Another option might be to establish market segment classes, such as those created by Automotive News or Ward’s for reporting sales. This system could not be incorporated into a continuous function, but might be a good way to minimize competitive impacts by placing vehicles with similar market attributes in the same class.

11. Credit trading. New authority for credit trading between standards classes and between companies under the CAFE program would provide manufacturers with increased compliance flexibility in dealing with unanticipated market shifts. The recent

² “Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards,” National Research Council, 2002, pages 92-3.

NAS report suggested this approach, as did the 1992 NAS report.³ Broader trading, encompassing other industrial sectors, would provide even greater flexibility by establishing additional buyers and sellers of credits. In that way, there would be greater assurance of a continuing market for the credits. A broad credit trading system would provide a strong incentive for manufacturers to earn credits through voluntary fuel economy improvements, since there would be a strong likelihood that buyers would exist for the earned credits. Permitting such trading would also enhance the overall efficiency of the system.

Concerns have been expressed that a credit trading system would benefit some manufacturers over others. However, provided manufacturer trades were voluntary, both the seller and buyer of credits would benefit, otherwise the trade would not be consummated. This would add a degree of market flexibility not currently in the program. To the extent a manufacturer may be hesitant to either sell or buy from another manufacturer, a program could be established where the government acts as a seller of CAFE credits, as discussed in the recent NAS report. Under this approach, the government would set a fixed price for the credits that it would sell. This price would be set above the effective cost of compliance for a reasonably efficient manufacturer, to maintain the incentive for manufacturers to meet the fuel economy targets. However, for a manufacturer that faces unusual compliance problems or should market shifts occur or technology not develop as anticipated, this approach has the advantage of establishing a maximum cost of complying with the requirements. In addition, manufacturers could be required to make up any fuel efficiency shortfalls within a specified period of time. The credit system could replace the current civil penalty system under the law, a change that the 1992 NAS CAFE Committee characterized as a "real advantage." In addition, the concepts of averaging and credit banking, which are part of the current system, should be retained.

12. Elimination of the import/domestic "two-fleet" rule. The current law requires dividing a manufacturer's passenger automobile fleet into domestic and import classes that must comply separately with fuel economy standards. There is no similar requirement for light trucks. This requirement was originally intended to inhibit domestic manufacturers from simply importing large numbers of small, "captive import" vehicles as a compliance strategy. Subsequent events, such as consolidation within the industry, have shown that, whatever the original validity of this concern, the concern should no longer exist. There is no reason to believe that the current market would accept large numbers of very small vehicles that were originally designed for foreign markets. In some cases the provision has created a disincentive for foreign-based companies to increase the U.S. content of their vehicles to levels above 75 percent, since doing so would place the vehicles in a different compliance fleet. This disincentive is real, not theoretical, and has cost U.S. jobs. AIAM member companies have been compelled to limit increases in domestic content levels in the past in order to avoid creating a new CAFE compliance fleet. For example, Nissan's efforts to increase the

³ Recommendation 2, page 114, id; "Automotive Fuel Economy – How Far Should We Go?" National Research Council, 1992,, page 184.

domestic content of its Tennessee-produced Sentra model were delayed by the separate fleet restriction. There have even been situations in which a company may have decreased the U.S. content of certain low efficiency domestic vehicles to a level below 75 percent, so that those vehicles can be averaged with the manufacturer's more fuel-efficient import fleet. The 2002 NAS CAFE study concluded that the separate fleet requirement "is no longer justifiable and should be eliminated."⁴ We strongly concur in this assessment.

AIAM also urges NHTSA to consider the comments on this point that have been submitted by the Japan Automobile Manufacturers Association (JAMA), with which we agree.

15. Other policy issues.

a) Government support for pre-competitive research. Government supported research can help provide a bridge to market introduction for advanced technologies that may be considered to be of too high a development risk for individual companies to pursue. Any such programs should be open to all manufacturers that have a substantial research capability within the U.S. With the increasing globalization of the world auto industry, distinctions based on historic geographic bases of companies have less and less relevance. Several AIAM member companies have substantial research presences in the U.S., and there is no justification for categorically barring such companies from participation in joint government-industry research programs.

b) Market incentives. As previously noted, a major deficiency of the CAFE system is the insufficiency of its market signals on the demand side to encourage consumers to purchase fuel-efficient vehicles. The best market signal is an increase in the cost of driving. Given the current political realities that work against increased fuel taxes, the next best alternative may be to create a variety of market incentives to stimulate demand for fuel efficiency as a vehicle attribute. Such incentives would encourage manufacturers to develop and introduce advanced technologies by enhancing the market for vehicles that use such technologies. Advanced fuel-efficient technologies are frequently costly, particularly in their first years of introduction, so incentives would facilitate the introduction of these items by helping to bridge the price differential between these vehicles and conventional vehicles. Congress has considered a variety of technology-based incentives in recent years to encourage consumers to purchase advanced technology vehicles, notably the CLEAR Act provisions that were recently passed by the Senate. AIAM member companies have generally supported these incentives. However, ideally, we believe that such incentives should be performance-based and technology-neutral, i.e., they should be designed to encourage the production and sale of fuel-efficient vehicles, regardless of the technology selected by the manufacturer to achieve high fuel efficiency.

⁴ Id, pages 89-90 and Recommendation 4, page 114.

c) **Fuels.** AIAM recognizes that NHTSA lacks authority to regulate fuel quality. Nevertheless, we urge NHTSA, in its discussions with other agencies that have such authority, to advocate enhancements in fuel quality as necessary to facilitate the use of advanced vehicle technology. As EPA recognized recently in its Tier 2 emissions standards and diesel sulfur regulations, advanced engine technology and high levels of fuel quality go hand-in-hand. Lean burn technology such as direct injection engines requires gasoline with very low sulfur levels, and advanced diesel engines will require diesel fuel with near zero sulfur levels in order to meet applicable emissions standards. Stability in distillation parameters of gasoline and control of deposits are also needed for future vehicles. In the longer term, special fueling infrastructure will be needed for fuel cells and certain types of hybrid vehicles. A coordinated and sustained effort will be needed to assure that appropriate fuels are available as new technologies are implemented.

d) **Lead time.** Fuel economy improvements can be most efficiently implemented when they are timed to coincide with manufacturers' normal redesign cycles. The precise amount of lead-time needed would vary depending upon the magnitude of any standards increase. The 18-month minimum lead-time currently specified in the law is clearly insufficient to enable manufacturers to comply with new standards of significantly increased stringency. Lead-time on the order of that suggested in the recent NAS study would be necessary for manufacturers to implement significant fuel economy improvements.

Statement of Timothy C. MacCarthy

**President and CEO
Association of International Automobile Manufacturers (AIAM)
Before the
National Academy of Sciences Committee on
Effectiveness and Impact of CAFE Standards**

March 12, 2001

I appreciate the opportunity to testify before the Committee today on behalf of AIAM and its member companies.¹

AIAM members have for many years been leaders in offering fuel-efficient vehicles for the U.S. market. Historically, vehicles produced by our member companies have headed EPA's annual list of most fuel-efficient vehicles. Indeed, these companies have achieved success in the U.S. market to a significant extent through the offering of high quality, fuel-efficient vehicles.

AIAM member companies have achieved this fuel economy leadership by pioneering the introduction of advanced automotive technology. The Honda Insight and Toyota Prius hybrid vehicles are notable examples of this leadership. We anticipate that AIAM companies will continue to follow this advanced technology path that has led to their success.

I am mindful of the Chairman's request at the February meeting that presentations should be brief and that main points should be summarized at the beginning. I am also mindful of the guidance given the Committee by Congress and the Department of Transportation regarding the Committee's report, and I will focus my remarks on structural aspects of the current CAFE program.

As numerous witnesses have noted, the current CAFE system has significant weaknesses. Chief among its flaws is that the program operates almost exclusively on the supply side, in that it simply directs manufacturers to produce vehicles having a specified level of

¹/ AIAM members include American Honda Motor Co., Inc., American Suzuki Motor Corporation, Daewoo Motor America, Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Inc., Mitsubishi Motors America, Inc., Nissan North America, Inc., Peugeot Motors of America, Inc., Saab Cars USA, Inc., Societe Anonyme Des Usines Renault, Subaru of America, Inc., and Toyota Motor North America, Inc. The Association also represents original equipment suppliers and other automotive-related trade associations. AIAM members have invested over \$20 billion dollars in new production and distribution capacity, creating tens of thousands of high-skill, high-wage jobs across the country in manufacturing, supplier industries, ports, distribution centers, headquarters, R&D centers and automobile dealerships.

average fuel economy or higher. On the demand side, however, current market signals are insufficient to substantially increase the number of consumers willing to buy the most fuel efficient vehicles, producing a conflict between manufacturers and their customers. CAFE also has been and will continue to be insensitive to future market shifts. Market-based measures would more efficiently promote the national goals of energy security and reduced greenhouse gas emissions.

We recognize that political realities may make it exceedingly difficult for the government to adopt the most efficient strategies for promoting energy security and global climate policies, such as higher fuel taxes. We also recognize that the seriousness of the current energy security and global climate concerns may justify a role for the Federal government in enhancing vehicle fuel efficiency. These considerations lead us to support the efforts of this Committee to assess whether the current CAFE system has worked effectively and whether other approaches to fuel economy improvements merit attention.

To that end the Committee should consider structural aspects of the program that interfere with the free functioning of the marketplace. The Committee should consider the following measures:

1. **Eliminate the domestic/import separate fleet requirement for passenger cars.** It is clear that the fear of small vehicle manufacturing moving offshore that led to the initial adoption of this requirement is no longer credible. Moreover, the current requirement perversely discourages increased U.S. content and employment.
2. **Reject unequivocally uniform percentage improvement (UPI) standards based on individual manufacturer performance.** This approach embodies a fundamentally flawed regulatory philosophy. The UPI format turns the incentives of the current program on their head, penalizing the companies that have historically offered the most fuel-efficient vehicles and rewarding technology laggards. Standards formats should be competitively neutral.
3. **If changes to the current CAFE format are deemed appropriate, thoughtful attention should be given to a variety of attribute-based systems, such as market class-, size-, or weight-based standards.** A size- or weight-based system could be designed either on a class basis or through a continuous mathematical function. Attribute-based systems can be developed that would permit manufacturers to compete on an equal-footing basis in any market segment.
4. **Create new tax credits and other incentives to encourage consumers to demand fuel-efficient vehicles.** Ideally, such credits and incentives should be performance-based and technology-neutral. However, regardless of how they are structured, incentives are needed to facilitate the introduction of advanced technology into the market, since such technology frequently has high initial cost.
5. **Credit trading.** Again, if changes to the current system are deemed appropriate, a credit trading system would enhance the efficiency of the CAFE system by

facilitating least cost compliance strategies. The government could become the seller of last resort for credits, thereby both establishing a maximum cost of compliance and enabling the replacement of the current civil penalty compliance system. We believe that this can be accomplished without sacrificing overall fuel efficiency improvements.

6. **Require improvements in fuel quality.** Near zero sulfur gasoline and diesel fuel, stability in distillation parameters of gasoline, and control of deposits are required by many of the advanced powertrain systems that are being developed.
7. **Provide adequate lead-time to comply.** To allow manufacturers to plan and implement fuel efficiency improvements, lead-time should reflect the complexity of changes being sought.

I will now discuss in greater detail these key issues.

Domestic/Import Separate Fleet Requirement

The current law divides a manufacturer's passenger automobile fleet into domestic and import classes that must comply separately with fuel economy standards. There is no similar requirement for light trucks. This requirement was originally intended to inhibit domestic manufacturers from simply importing large numbers of small, "captive import" vehicles as a compliance strategy. Subsequent events, such as consolidation within the industry, have shown that, whatever the original validity of this concern, the concern should no longer exist. There is no reason to believe that the current market would accept large numbers of very small vehicles that were originally designed for foreign markets. Moreover, the provision has created a disincentive for foreign-based companies to increase the U.S. content of their vehicles to levels above 75 percent, since doing so would place the vehicles in a separate compliance fleet. This disincentive is real, not theoretical, and has cost U.S. jobs. AIAM member companies have been compelled to limit increases in domestic content levels in the past in order to avoid creating a new CAFE compliance fleet. For example, Nissan's efforts to increase the domestic content of its Tennessee-produced Sentra model were delayed by the separate fleet restriction. There have even been reports that a company has decreased the U.S. content of certain low efficiency domestic vehicles to a level below 75 percent, so that those vehicles could be averaged with the manufacturer's more fuel-efficient import fleet. The 1992 NAS CAFE study² concluded that the separate fleet requirement "has no obvious or necessary connection to the achievement of fuel economy" and encouraged Congressional consideration of repeal. We strongly concur in this assessment.

Uniform Percentage Improvement Standards

We strongly oppose uniform percentage improvement (UPI) standards based on individual manufacturer performance. Simply stated, they represent bad public policy. The UPI standards format was extensively debated a decade ago in Congress, roundly

² "Automobile Fuel Economy, How Far Should We Go?", National Research Council, 1992, page 184.

criticized, and thoroughly discredited. This format would create unique fuel economy standards for each manufacturer by applying the same percentage increase to the manufacturer's performance in a base year. We are unaware of any current regulatory program that uses this standards format. Under UPI standards, if two manufacturers were to produce the same mix of vehicle sizes and technology in the same year, one could be assessed civil penalties while the other could be awarded credits, due to differences in the two companies' baselines. We believe that a system that assigns differing compliance consequences to the same conduct by two entities is fundamentally discriminatory.

The 1992 NAS CAFE Committee addressed the UPI standards format in the context of legislation pending at that time before Congress. The Committee's report stated as follows:

This approach would establish different requirements for different manufacturers and would have the perverse effect of requiring those manufacturers with the best fleet fuel economy in the base year to comply with CAFE requirements in the outlying years that are more stringent than those for manufacturers who had not achieved similar accomplishments. The regulatory system would thus penalize those manufacturers who have exceeded the minimal requirements and thereby discourage any fuel economy accomplishments above the baseline in the future. Moreover, the approach is unfair because the currently available technology for improving fuel economy might already have been incorporated in the base year by the manufacturer who is confronted with the largest future-year fuel economy requirements. In addition, the selection of the base year could create arbitrary advantages or disadvantages for the manufacturers based on the happenstance of the product mix or technology that was applied by the manufacturers in that year.³

The Committee also noted the anti-competitive effects of such standards.

During Senate Commerce, Science, and Transportation Committee consideration of UPI standards a decade ago, the Office of Technology Assessment also criticized the UPI standards format.

The structure does not account for the fact that at least a portion of the current differences in companies' CAFEs are (sic) due to ... the companies' different efforts at moving advanced technology into their fleets. Our analysis of the fuel economy characteristics of various company fleets ... indicates that some companies have fleet fuel economies that are well above the industry average even when the effects of fleet size distribution are accounted for. Thus, this type of standard penalizes manufacturers who have tried the hardest to increase their fleet fuel efficiency in the past. They now have the most difficult technological

³ Id, page 181.

challenge, because they have already “used up” a larger portion of the technological headroom available to them from off-the-shelf technology. Companies that have hesitated to use the best available technologies ... are instead rewarded by being presented with the lowest efficiency target. ... Also, it is possible that companies that wind up with the lowest efficiency targets could use the leeway these lowered targets afford them to increase vehicle performance to levels that companies with higher efficiency targets may not be able to match (because higher performance reduces fuel efficiency). [Such a result would] have not only rewarded the lower efficiency automakers with an easier target, but have given them a market advantage as well.⁴

The Justice Department reached a similar conclusion regarding UPI standards in a letter to the Consumer Subcommittee of the same Senate Committee. The Justice Department letter states that

... manufacturers with high average fuel economies will be impeded in entering U.S. markets for larger cars because such entry – even if they produce more efficient larger cars than are now available – could prevent them from meeting the new standards. Thus, competition would suffer and the fuel efficiency of a whole category of vehicles could be kept artificially low.⁵

We can only add our strongest possible agreement with these statements and note that nothing has occurred over the past decade to remedy the fundamental defects in the UPI standards concept.

Standards Format

Should alternative standards formats be considered, they should be competitively neutral. These could be in the form of market class-, size-, or weight-based standards. Under such standards formats, fuel efficiency improvements would be required for all vehicle classes. The burdens of the standards would be approximately the same, regardless of the mix of vehicles produced by the manufacturer. However, it would be critical to assure that the system does not restrict the functional utility of light trucks.

Each of these standards formats has certain advantages and disadvantages. For example, weight-based standards would provide no incentive for manufacturers to reduce vehicle weight, either through downsizing or materials substitution. Like weight-based standards, size-based standards would provide approximately equal relative burdens

⁴ Statement of the Office of Technology Assessment to the Senate Commerce, Science, and Transportation Committee, 101st Congress, Senate Hearing 101-347.

⁵ Letter from the Assistant Attorney General for Legislative Affairs to the Consumer Subcommittee, Senate Commerce, Science and Transportation Committee, January 26, 1990.

among manufacturers, and could provide an incentive for improved packaging or introduction of lightweight materials that reduce weight without reducing size. However, it would be difficult to classify vehicles properly and to integrate cars and trucks into the same system. Either weight or size formats could be incorporated into a continuous function, to avoid undesirable "edge-of-class" effects, but a continuous function standard would make it even more difficult to integrate cars and light trucks. Another option might be to establish market segment classes, such as those created by *Automotive News* or *Ward's* for reporting sales. This system could not be incorporated into a continuous function, but might be a good way to minimize competitive impacts by placing vehicles with similar market attributes in the same class.

Tax Credits/Incentives

As previously noted, a major deficiency of the CAFE system is the insufficiency of its market signals on the demand side to encourage consumers to purchase fuel-efficient vehicles. The best market signal is an increase in the cost of driving. However, given the current political realities that work against increased fuel taxes, the next best alternative is to create a variety of market incentives to stimulate demand for fuel efficiency as a vehicle attribute. Such incentives would encourage manufacturers to develop and introduce, and consumers to buy, advanced technology vehicles (such as advanced hybrid and fuel cell vehicles) by enhancing their market value to the point where they are price competitive with traditional internal combustion powertrains. Advanced fuel-efficient technologies are frequently costly, particularly in their first years of introduction. Incentives would facilitate the introduction of these technologies by helping to bridge the price differential between these vehicles and conventional vehicles. Congress has considered a variety of technology-based incentives in recent years to encourage consumers to purchase advanced technology vehicles. AIAM member companies have generally supported these incentives. In an ideal world, such incentives should be performance-based and technology-neutral, i.e., they should be designed to provide higher incentives for higher achievement, encouraging the production and sale of fuel-efficient vehicles regardless of the technology selected by the manufacturer to achieve high fuel efficiency. However, regardless of how they are structured, incentives are needed to offset, at least partially, today's higher costs of advanced technologies.

Credit Trading

New authority for credit trading between standards classes and between companies under the CAFE program would provide manufacturers with increased compliance flexibility in dealing with unanticipated market shifts. The 1992 NAS CAFE Committee suggested this approach.⁶ Permitting such trading would also enhance the overall efficiency of the system. Concerns have been expressed that a credit trading system would primarily benefit foreign-based manufacturers of fuel-efficient vehicles. However, under an attribute-based system, there is no reason why there should necessarily be any disparate effects of this sort. A variation on this credit theme that was discussed briefly at this Committee's February meeting is the establishment of the government as the seller of last

⁶ Id, page 184.

resort of CAFE credits. Under this approach, the government would set a fixed price for the credits that it would sell. This price would be set above the effective cost of compliance for a reasonably efficient manufacturer, to maintain the incentive for manufacturers to meet the fuel economy targets. However, if a manufacturer should face unusual compliance problems, or if unexpected market shifts occur or technology does not develop as anticipated, this approach has the advantage of establishing a maximum cost of complying with the requirements. In addition, manufacturers could be required to make up any fuel efficiency shortfalls within a specified period of time. The credit system could replace the current civil penalty system under the law, a change that the 1992 NAS CAFE Committee characterized as a "real advantage." In addition, the concepts of averaging and credit banking, which are part of the current system, should be retained.

Fuels and Fueling Infrastructure

As EPA recognized recently in its Tier 2 emissions standards and diesel regulations, advanced engine technology and high levels of fuel quality go hand-in-hand. For instance, direct injection engine technology requires gasoline with very low sulfur levels, and advanced diesel engines will require diesel fuel with near zero sulfur levels to meet applicable emissions standards. Stability in distillation parameters of gasoline and control of deposits are also needed for future vehicles. In the longer term, a special fueling infrastructure will be needed for fuel cells and certain types of hybrid vehicles. A coordinated and sustained effort will be needed to assure that appropriate fuels are available as new technologies are implemented.

Lead-Time

Fuel economy improvements can be most efficiently implemented when they are timed to coincide with manufacturers' normal redesign cycles. The precise amount of lead-time needed will vary depending upon the magnitude of any standards increase. The 18-month minimum lead-time currently specified in the law is clearly insufficient to enable manufacturers to comply with new standards of significantly increased stringency.

* * *

In summary, the CAFE law was enacted over 25 years ago, and it is clear that during that time the world has changed. The U.S. energy situation, the importance of global climate change, and the auto industry itself have all changed. Automakers around the world are investing billions of dollars on advanced fuel efficient technologies which hold great promise, not only for improving fuel efficiency but also for cleaning the air. However, what has not changed is the need for any system that might be contemplated as part of a comprehensive national energy policy to take into account market realities. Such a system should:

- Actually reduce energy consumption and carbon dioxide emissions;

- Be technologically feasible and cost-effective and provide manufacturers adequate lead-time to comply;
- Promote the development and introduction of fuel efficient technologies by all manufacturers;
- Avoid anti-competitive effects; and
- Allow manufacturers sufficient flexibility to meet consumer needs and comply with competing regulatory requirements.

I would like again to express my appreciation for the opportunity to address the Committee and I would be happy to answer any questions that you may have.